PE NUMBER: 0207133F
PE TITLE: F-16 SQUADRONS

Exhibit R-2, RDT&E Budget Item Justification	DATE May 2009
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0207133F F-16 SQUADRONS

Cost ($ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	76.816	126.834	141.020	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
2671 F-16 Squadrons	76.816	126.834	141.020	0.000	0.000	0.000	0.000	0.000	Continuing	TBD

FY 2008 funding total includes $7.096M supplemental funding.

(U) A. Mission Description and Budget Item Justification

The F-16 Fighting Falcon is the world's premier multi-mission fighter. It is a fixed-wing, high performance, single-engine fighter aircraft. In its 30-year history, the F-16 has proven itself in combat in a variety of air-to-air and air-to-surface missions such as close air support, combat air patrol, forward air control, battle air interdiction (day/night and all-weather) and suppression of enemy air defenses (SEAD)/Destruction of enemy air defenses (DEAD). Also during these years the aircraft has evolved in its capabilities to exploit the advances made in computer, avionics systems, engine, and structures technologies. The F-16 has been selected by more than 20 air forces around the world and foreign military sales production continues in the 21st century. The 312th Aeronautical Systems Group (312 AESG, the F-16 Development Management Office) develops, integrates, and qualifies systems to enhance the overall performance of the F-16 mission.

Enhancements which are being or will be developed during the FYDP include:

a .The Mode 5 program for Blk 40/50 aircraft provides secure, encrypted IFF capability. Modifications to the Air-to Air Interrogator (AAI) system through integration of a Mode 5 capable Combined Interrogator/Transponder (CIT) capbaility will field with M6+ OFP.
b. The F-16 development efforts are complemented by comprehensive operational flight program (OFP) upgrades including Hardware and Group A development associated with OFP software candidates. Integration efforts includes software upgrades to the ALR-56M Radar Warning Receiver, manned fighter reconnaissance capabilities and Joint Helmet Mounted Cueing System (JHMCS) which allows the pilot to designate and shoot targets off-bore sight without maneuvering the aircraft. Advanced weapons integration moves under the OFP updates line starting in FY08 and includes Joint Air-to-Surface Stand-off Missile (JASSM) and Joint Direct Attack Munition (JDAM, Laser JDAM), Joint Stand-off Weapon (JSOW), Wind Corrected Munition Dispenser (WCMD), Small Diameter Bomb (SDB), AMRAAM, AIM-9X and updates to existing weapons into the F-16. Integration with the high angle off-bore sight AIM-9X missile provides the F-16 with enhanced first-look/first-shoot/first-kill advantage in the "dogfight" arena. Weapons integration also includes tasks such as performing risk reduction activities on advanced weapon integration, developing and integrating advanced racks, pylons, adapters, and the Universal Armament Interface, and ensuring nuclear surety, safety and compatibility. Link 16 provides the F-16s with a secure, jam resistant, high-capacity data communications link with other combat aircraft, airborne control aircraft, and ground control centers. Ongoing Embedded GPS/INS improvements provide improved targeting capability to take full advantage of GPS-aided precision weapons to conduct evolving missions. Mission Planning system integration and ground collision avoidance capability development and integration efforts are included in M-tapes funding. Starting with M6/M6+ OFP, LM Aero will start transition activities for OFP workload and maintenance of M-series OFP tapes to OO-ALC and assumes a "leader/follower" transition where LM Aero will produce M6/M6+ OFP as OO-ALC builds up capability (personnel, special test equipment, OFP development tools & processes, and training). OO-ALC will have software development responsibility for the next M-series OFP program (M7+). During transition, both Lockheed and Ogden may have some concurrent software development capabilities both in terms of special test equipment and personnel since OFP tape developments overlap. This funding is broken out through FY09 for clarity to separate these transition efforts from OFP Development.

Exhibit R-2, RDT&E Budget Item Justification	DATE May 2009
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0207133F F-16 SQUADRONS

c. EMD Hardware/Advanced Capability Improvements. EMD HW provides funding to develop, test, and qualify aircraft subsystems replaced or modified due to requirements changes, Pre-Planned Product Improvements (P3I) and Diminishing Manufacturing Source (DMS). The approach to contracting varies by individual project. These hardware improvements include but are not limited to flight systems, improved navigation, mux architecture, MMC upgrade, Embedded GPS/INS, Blk 40 Air-to-Air Interrogator (AAI), digital video recorder, Advanced Data Transfer Equipment (ADTE), display upgrades, radio and communication studies, Electronic Warfare (EW), CAS Data Link and other subsystems. Advanced Capability Improvements includes software integration, sensor upgrades, enhanced self-protection/electronic protection (EP), 4th/5th gen fighter network commmunications, lab and/or on-aircraft evaluation of potential subsystem changes/capability improvements on the F-16 as well as establishment of associated requirement specification changes. These capability improvements also fund integration of pods including updates and tech order changes (SNIPER, LANTIRN, HTS, LITENING, THUNDER POD, Theatre Air Reconnaissance System (TARS/RECCE) etc. Note: The MMC upgrade and Embedded GPS/INS are broken out for clarity.

d. The F16 Secure Line of Sight (SLOS) communication mod is in response to CENTCOM Urgent Operational Need for secure line-of-sight/single channel ground and airborne radio system (SINCGARS) communication capabilities which can be upgraded to secure beyond line of sight (BLOS) capability in the future. BLOS (for Blk 30/32) received an OMNIBUS reprogramming and funding for Blk 40-52 BLOS development/integration was provided in a supplemental bill. This investment initiates development of SATCOM BLOS capability to communicate with many rotary wing and ground maneuver units in the theater of operations.

e. F-16 ATS Development - Develop capability of the Versatile Automatic Test System (VDATS) for F-16 application. The Integrated Life Cycle Management (ILCM) executive agent for Automatic Test Systems (ATS) is focused on reducing weapon system unique ATS through replacement with a Common Versatile ATS tester that can perform similar test across multiple weapons platforms.

Since the development activities in this PE support an operational aircraft, these development activities are funded in the operational system development budget activity 7.

(U) B. Program Change Summary ($ in Millions)

		FY 2008	FY 2009	FY 2010
(U)	Previous President's Budget	70.172	123.979	119.900
(U)	Current PBR/President's Budget	76.816	126.834	141.020
(U)	Total Adjustments	6.644	2.855	
(U)	Congressional Program Reductions			
	Congressional Rescissions		-0.345	
	Congressional Increases	7.096	3.200	
	Reprogrammings	1.500		
	SBIR/STTR Transfer	-1.952		

(U) Significant Program Changes:

FY 2008 funding total includes $7.096M supplemental funding.
FY09 adds $3.2M for Thunder Pod Integration Congressional Plus-up
FY09 pending $4.2M being reprogrammed ($3.1M for SIBR and $l.lM for other higher priority requirements).

Exhibit R-2, RDT&E Budget Item Justification	DATE May 2009
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0207133F F-16 SQUADRONS

FY10: includes $4.8M for Automatic Ground Collision Avoidance System (Auto GCAS)

FY10: adds $9.5M to complete Mode 5 and BLOS Integration

Exhibit R-2a, RDT&E Project Justification			DATE: May 2009
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0207133F F-16 SQUADRONS	PROJECT NUMBER AND TITLE: 2671 F-16 Squadrons	

Cost ($ in Millions)		FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
2671	F-16 Squadrons	76.816	126.834	141.020	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The F-16 Fighting Falcon is the world's premier multi-mission fighter. It is a fixed-wing, high performance, single-engine fighter aircraft. In its 30-year history, the F-16 has proven itself in combat in a variety of air-to-air and air-to-surface missions such as close air support, combat air patrol, forward air control, battle air interdiction (day/night and all-weather) and suppression of enemy air defenses (SEAD)/Destruction of enemy air defenses (DEAD). Also during these years the aircraft has evolved in its capabilities to exploit the advances made in computer, avionics systems, engine, and structures technologies. The F-16 has been selected by more than 20 air forces around the world and foreign military sales production continues in the 21st century. The 312th Aeronautical Systems Group (312 AESG, the F-16 Development Management Office) develops, integrates, and qualifies systems to enhance the overall performance of the F-16 mission.

Enhancements which are being or will be developed during the FYDP include:

a .The Mode 5 program for Blk 40/50 aircraft provides secure, encrypted IFF capability. Modifications to the Air-to Air Interrogator (AAI) system through integration of a Mode 5 capable Combined Interrogator/Transponder (CIT) capbaility will field with M6+ OFP.
b. The F-16 development efforts are complemented by comprehensive operational flight program (OFP) upgrades including Hardware and Group A development associated with OFP software candidates. Integration efforts includes software upgrades to the ALR-56M Radar Warning Receiver, manned fighter reconnaissance capabilities and Joint Helmet Mounted Cueing System (JHMCS) which allows the pilot to designate and shoot targets off-bore sight without maneuvering the aircraft. Advanced weapons integration moves under the OFP updates line starting in FY08 and includes Joint Air-to-Surface Stand-off Missile (JASSM) and Joint Direct Attack Munition (JDAM, Laser JDAM), Joint Stand-off Weapon (JSOW), Wind Corrected Munition Dispenser (WCMD), Small Diameter Bomb (SDB), AMRAAM, AIM-9X and updates to existing weapons into the F-16. Integration with the high angle off-bore sight AIM-9X missile provides the F-16 with enhanced first-look/first-shoot/first-kill advantage in the "dogfight" arena. Weapons integration also includes tasks such as performing risk reduction activities on advanced weapon integration, developing and integrating advanced racks, pylons, adapters, and the Universal Armament Interface, and ensuring nuclear surety, safety and compatibility. Link 16 provides the F-16s with a secure, jam resistant, high-capacity data communications link with other combat aircraft, airborne control aircraft, and ground control centers. Ongoing Embedded GPS/INS improvements provide improved targeting capability to take full advantage of GPS-aided precision weapons to conduct evolving missions. Mission Planning system integration and ground collision avoidance capability development and integration efforts are included in M-tapes funding. Starting with M6/M6+ OFP, LM Aero will start transition activities for OFP workload and maintenance of M-series OFP tapes to OO-ALC and assumes a "leader/follower" transition where LM Aero will produce M6/M6+ OFP as OO-ALC builds up capability (personnel, special test equipment, OFP development tools & processes, and training). OO-ALC will have software development responsibility for the next M-series OFP program (M7+). During transition, both Lockheed and Ogden may have some concurrent software development capabilities both in terms of special test equipment and personnel since OFP tape developments overlap. This funding is broken out through FY09 for clarity to separate these transition efforts from OFP Development.
c. EMD Hardware/Advanced Capability Improvements. EMD HW provides funding to develop, test, and qualify aircraft subsystems replaced or modified due to requirements changes, Pre-Planned Product Improvements (P3I) and Diminishing Manufacturing Source (DMS). The approach to contracting varies by individual project. These hardware improvements include but are not limited to flight systems, improved navigation, mux architecture, MMC upgrade, Embedded GPS/INS, Blk

40 Air-to-Air Interrogator (AAI), digital video recorder, Advanced Data Transfer Equipment (ADTE), display upgrades, radio and communication studies, Electronic Warfare (EW), CAS Data Link and other subsystems. Advanced Capability Improvements includes software integration, sensor upgrades, enhanced self-protection/electronic protection (EP), 4th/5th gen fighter network commmunications, lab and/or on-aircraft evaluation of potential subsystem changes/capability improvements on the F-16 as well as establishment of associated requirement specification changes. These capability improvements also fund integration of pods including updates and tech order changes (SNIPER, LANTIRN, HTS, LITENING, THUNDER POD, Theatre Air Reconnaissance System (TARS/RECCE) etc. Note: The MMC upgrade and Embedded GPS/INS are broken out for clarity.

d. The F16 Secure Line of Sight (SLOS) communication mod is in response to CENTCOM Urgent Operational Need for secure line-of-sight/single channel ground and airborne radio system (SINCGARS) communication capabilities which can be upgraded to secure beyond line of sight (BLOS) capability in the future. BLOS (for Blk 30/32) received an OMNIBUS reprogramming and funding for Blk 40-52 BLOS development/integration was provided in a supplemental bill. This investment initiates development of SATCOM BLOS capability to communicate with many rotary wing and ground maneuver units in the theater of operations.

e. F-16 ATS Development - Develop capability of the Versatile Automatic Test System (VDATS) for F-16 application. The Integrated Life Cycle Management (ILCM) executive agent for Automatic Test Systems (ATS) is focused on reducing weapon system unique ATS through replacement with a Common Versatile ATS tester that can perform similar test across multiple weapons platforms.

Since the development activities in this PE support an operational aircraft, these development activities are funded in the operational system development budget activity 7.

	B. Accomplishments/Planned Program ($ in Millions)	FY 2008	FY 2009	FY 2010
(U)	Continue OFP Updates	45.735	76.408	104.193
(U)	Continue Flight Tests DT&E	19.907	23.600	26.827
(U)	Mode 5 IFF for CAF Aircraft	0.100	9.790	8.000
(U)	MMC Upgrade Development	1.544		
(U)	EMD HW/Advanced Capabilities Improvements		0.600	0.500
(U)	Embedded GPS/INS Development	0.008		
(U)	Secure Line of Sight (SLOS) integration	0.100		
(U)	OFP Transition	2.293	8.435	
(U)	Beyond Line of Sight (BLOS) development/integration	7.129	0.600	1.500
(U)	$4.2MPending Reprogramming		4.201	
(U)	Plus up/Thunder Pod		3.200	
(U)	Automatic Test System (ATS) Development			
(U)	Total Cost	76.816	126.834	141.020

Exhibit R-2a, RDT&E Project Justification		DATE: May 2009
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0207133F F-16 SQUADRONS	PROJECT NUMBER AND TITLE: 2671 F-16 Squadrons

(U) C. Other Program Funding Summary ($ in Millions)

	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total Cost
(U) Aircraft Procurement Line Item 32, F-16 Mods	383.559	308.556	224.642							TBD
(U) Aircraft Procurement , Line Item 80, Post Production Support	8.464	13.586	19.951							TBD

(U) D. Acquisition Strategy

RDT&E funds will primarily be executed in developing improved capability, maintenance and safety mods. Operational Flight Program (OFP) software will be continuously updated to complement mod development efforts. OFP transition activities to OO-ALC started in FY06 as part of the "follower/leader" effort with software development starting with M7+. The EMD Hardware Development line provides funding to develop, test, and qualify aircraft subsystems upgrades, communication upgrades and Diminishing Manufacturing Source (DMS). The approach to contracting varies by individual project. Lockheed Martin Aeronautics Company (LM Aero) is the prime contractor on all systems except the General Electric Engines and the Pratt & Whitney Engines. Contract types are T&M, CPIF, CPFF and FFP.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: May 2009

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0207133F F-16 SQUADRONS

PROJECT NUMBER AND TITLE: 2671 F-16 Squadrons

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2008 Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
OFP Updates	CPIF, T&M	LM Aero	58.079	45.735	Oct-07	76.408	Oct-08	104.193	Oct-09	Continuing	TBD	
OFP Transition	T&M, Organic	LM Aero, OO-ALC	9.996	2.293	Oct-07	8.435	Oct-08			Continuing	TBD	
Mode 5 IFF for CAF Aircraft	CPIF	LM Aero	0.000	0.100	Feb-09	9.790	Jun-09	8.000	Jan-10	Continuing	TBD	
MMC 7000A Upgrade Development	CPIF	LM Aero	6.732	1.544	Dec-07						8.276	
EMD HW/Advanced Capabilities Improvements	T&M, FFP	LM Aero/AFRL/VA	2.542			0.600	Feb-09	0.500	Mar-10	Continuing	TBD	
Embedded GPS/INS Development	FFP	Northrop Grumman	4.138	0.008	Dec-07						4.146	
BLOS development/integration	FFP/CPIF, T&M	LM Aero	7.152	7.129	Feb-09	0.600	Jul-09	1.500	Oct-09		16.381	
SLOS development/integration	FFP, CPIF	LM Aero	4.634	0.100	Sep-08						4.734	
Plus up (Thunder Pods)	Organic	OO-ALC	0.996			3.200	Aug-09				4.196	
$4.2MPending Reprogramming		SAF/FM				4.201	Jun-09				4.201	
Subtotal Product Development			94.269	56.909		103.234		114.193		Continuing	TBD	0.000
Remarks:												
(U) Support												
											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Test & Evaluation												
Flight Tests	T&M/CPFF, Organic	LM Aero/ Edwards AFB	27.051	19.907	Dec-07	23.600	Oct-08	26.827	Nov-09	Continuing	TBD	
Subtotal Test & Evaluation			27.051	19.907		23.600		26.827		Continuing	TBD	0.000
Remarks:												
(U) Management												
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Rescission												
(U) Total Cost			121.320	76.816		126.834		141.020		Continuing	TBD	0.000
Remarks:												

Exhibit R-4, RDT&E Schedule Profile		DATE: May 2009
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0207133F F-16 SQUADRONS	PROJECT NUMBER AND TITLE: 2671 F-16 Squadrons

F-16 Program Schedule - USAF

U.S. AIR FORCE

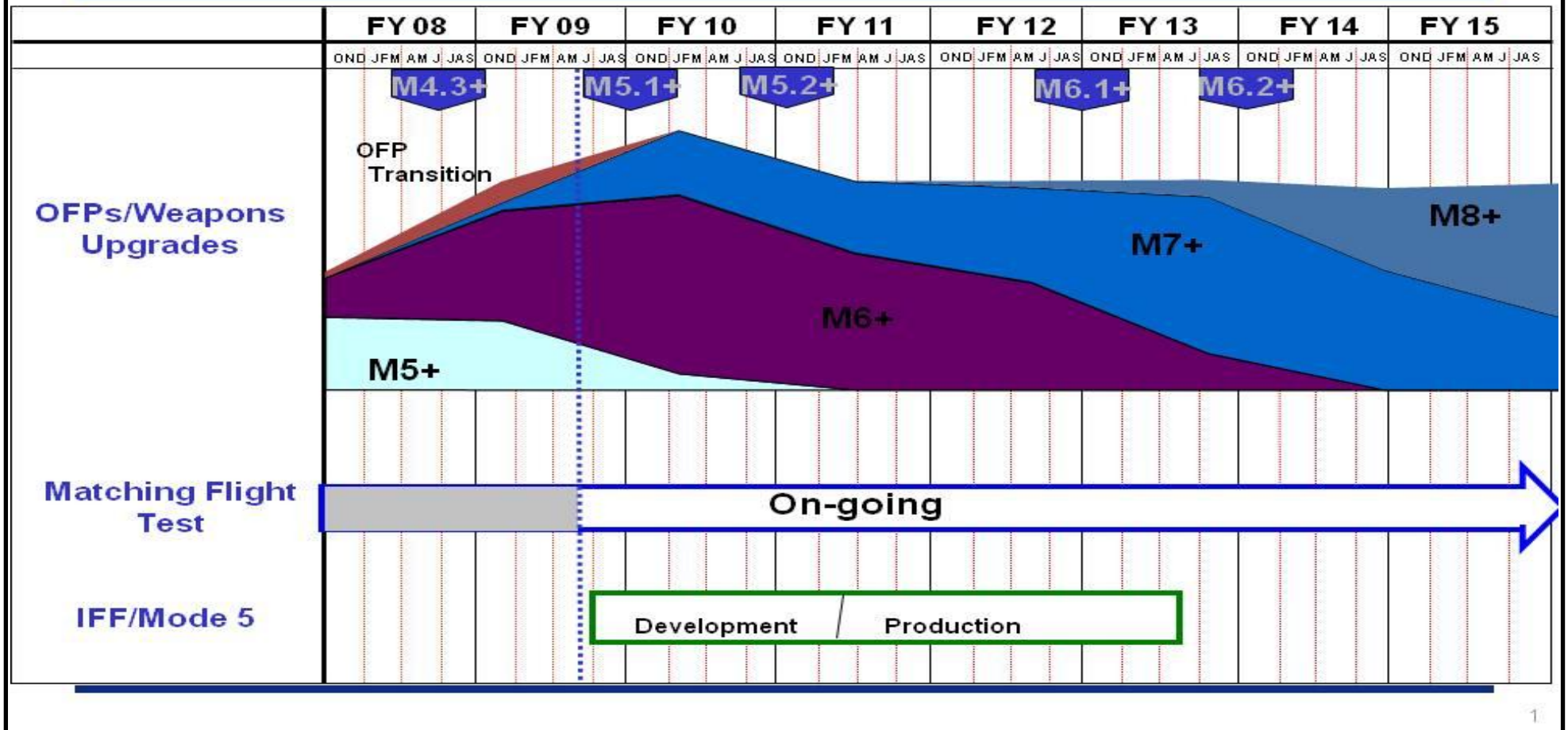

Exhibit R-4a, RDT&E Schedule Detail		DATE May 2009
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0207133F F-16 SQUADRONS**	PROJECT NUMBER AND TITLE **2671 F-16 Squadrons**

(U) **Schedule Profile**	FY 2008	FY 2009	FY 2010
(U) Flight Test Continuous	1-4Q	1-4Q	1-4Q
(U) OFP Development, continuous	1-4Q	1-4Q	1-4Q
(U) OFP Transition activities	1-4Q	1-4Q	
(U) Mode 5 IFF for CAF Aircraft		3-4Q	1-4Q
(U) EMD Hardware (contiuous)	1-4Q	1-4Q	1-4Q
(U) Embedded GPS/INS Development	1-4Q		
(U) MMC 7000A Development	1-4Q		
(U) BLOS - FY08 Supplemental, FY10 Pus up	1-4Q	1-4Q	1-3Q
(U) SLOS - development/integration	4Q		

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